



City of Concord Wastewater Resources Department
Wastewater Collection System Performance Annual Report
Fiscal Year July 2008 – June 2009

I. General Information

System Name: City of Concord Wastewater Collection System

Responsible Entity: City of Concord

Persons in Charge: T. Mark Fowler
Director of Wastewater Resources

Aaron R. Cook
Wastewater Utility Services Coordinator and System Operator

Applicable Permits: WQCS00326
Tributary to NC0036269, NC0081621, and NC0067172

Description of the System:

The City of Concord Wastewater Collection System consists of over 528 miles of sewer pipelines, approximately 12,974 manholes, and 25 wastewater pump stations. The system came into existence in the early 1900s and continued to be upgraded and extended to become the system we operate today.

II. Performance

The City of Concord's Wastewater Resources Department performs the operation and maintenance of the City's collection system, which serves approximately 30,423 customer connections. Eleven crews provide this service. Two rapid-response crews respond to all calls related to potential blockages and overflows in the system. Two jet-vac truck crews perform maintenance on the system by removing obstructions that may be present in the system, thus limiting the number of possible back-ups and overflows. These trucks are also used to maintain the City's 25 wastewater pump stations through periodic cleaning and sludge removal. An inflow- infiltration crew locates defects and

obstructions in the pipelines by the use of a camera that videotapes the inside of the sewers. The City also has a crew that is dedicated to the operation and maintenance of the City's wastewater pump stations. Two service line installation and repair crews install new service connections to the City's sewer mains and repair sewer mains as well as manholes, along with conducting smoke tests on the sewer system. One crew is dedicated to the installation of new sewer lines and the replacement of aged and deteriorated sewer lines. The City has a Global Positioning System (GPS) and right-of-way maintenance crew that collects data on the location of the various components of the City's system, provides maintenance of the wastewater collection system's rights-of-way, and performs semi-annual inspections of the system. The City has a System Compliance Officer who is responsible for the implementation of the Fats, Oil, and Grease Program (FOG), along with the inspection of sewer right-of-ways to ensure easement accessibility.

During the past fiscal year, the City of Concord was requested to investigate approximately 263 reports of possible sewer-related overflows. These calls were related to both municipal and private lines. The City of Concord had 1 incident that resulted in the spill or overflow of more than 1,000 gallons of wastewater to surface waters of the State.

February 2009

Total - +/- 1,200 gallons

Manor Avenue, Concord (1,200)

This spill occurred as a result of tree root intrusion. Roots were mechanically removed. This section of sewer line has been replaced with a new 8 inch PVC pipe. There were no known environmental impacts as a result of this spill.

The City of Concord is continually performing preventative maintenance activities and undergoing rehabilitation projects to prevent sanitary sewer overflows. The following activities have been completed during the past fiscal year.

Jet-Vac Line Cleaning	340,174 linear feet
Root Control	31,204 linear feet
Dye Testing	7 each
Sewer Service Inspections	635 each
Sewer Line Replacements	6,789 linear feet
Smoke Testing	184,420 linear feet
T.V. Inspections	156,444 linear feet
Slip-lining	9,770 linear feet
I&I Defect Repairs	527 each

Deleted: 5

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The City of Concord Wastewater Department began a program in FY '06-'07 to make property owners aware of sewer easements on their property. The purpose of this program is to initiate corrective actions to existing accessibility problems and prevent future accessibility problems. Easements are not always identified on property deeds.

The first step to ensure access to the sewer system is to confirm that the property owner

is aware of the City's easements so they can plan or modify the use of their property accordingly. Notification letters include the specific reference to a recorded easement or subdivision plat that affects the owner's property. To date, the City of Concord has distributed 2173 easement notification letters to customers, including information about the City's requirements for keeping the easement accessible. Easement research and notifications for over 85% of the City's utility service area has been completed. Properties with sewer easements are flagged in the City's customer database so new owners can be notified when property ownership is transferred. To date, 473 letters have been mailed as a result of property transfers.

In an effort to improve customer service, the Wastewater Resources Department began using GPS equipment to locate sewer cleanouts at the edge of public rights-of-way. This information will help staff more efficiently locate and determine causes for back-ups on service lines and laterals. To date, 20,285 cleanout points have been collected.

The City of Concord implemented a new Inflow and Infiltration Program in February 2009, to identify all sources of inflow and infiltration in the Irish Buffalo Creek drainage basin, which consists of 86 sub-basins. This program involves flow monitoring, TV inspection, jet-vac cleaning, and smoke testing. Since the program began, 40 sites in the Irish Buffalo Creek basin have been monitored. Defects are geo-located using handheld GPS devices and work orders are generated to initiate repairs. The goal of the program is to identify and prioritize sources of inflow and infiltration and reduce excess flow entering the system. This reduction of unnecessary flow will create additional capacity in the system, extend the life of the existing infrastructure, and reduce the City's wastewater treatment cost. This program will also be used to ensure that existing sewer pipes are sized sufficiently to handle the current sewer flows in each of Concord's sewer basins and help determine if any additional sewer capacity will be needed for proposed development.

III. Notification

Customers of the City of Concord's wastewater collection system were notified regarding the availability of this annual report through a public notice in the *Concord & Kannapolis Independent Tribune*, a local daily newspaper. A copy of this report is available for review at the Alfred M. Brown Operations Center at 850 Warren C. Coleman Boulevard, Concord, North Carolina; at City Hall, 26 Union Street South, Concord, North Carolina; and on the City of Concord's website at www.ci.concord.nc.us.

IV. Certification

I certify under penalty of law that this report is complete and accurate to the best of my knowledge. I further certify that this report has been made available to the users or customers of the named system and that those users have been notified of its availability.

_____ Date: _____

CITY OF CONCORD

T. Mark Fowler, Director of Wastewater Resources